

STIC Search Report

Biotech-Chem Library

STIC Database Tracking Number: 162427

TO: Ben Sackey
Location: 5b31 / 5c18
Art Unit: 1626
Wednesday, August 31, 2005

Case Serial Number: 10/690260

From: Noble Jarrell
Location: Biotech-Chem Library
Rem 1B71
Phone: 272-2556

Noble.jarrell@uspto.gov

Search Notes

162927

Scientific and Technical Information Center

SEARCH REQUEST FORM

Requester's Full Name: BEN SACKET Examiner #: 73489 Date: 8/12/05
 Art Unit: 1626 Phone Number: 2-0704 Serial Number: 101690260
 Location (Bldg/Room#): 5B31 REM Mailbox #: 5C-18 Results Format Preferred (circle): PAPER DISK

To ensure an efficient and quality search, please attach a copy of the cover sheet, claims, and abstract or fill out the following:

Title of Invention: Process for the racemate resolution of 3-aminopentane nitrile

Inventors (please provide full names): Dreisbach et al.

Earliest Priority Date: _____

Search Topic:

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc., if known.

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Process for obtaining enantiomerically enriched 3-aminopentane nitrile or it's salt from racemic 3-aminopentane nitrile comprising:

- ① reacting racemic 3-aminopentane nitrile with an enantiomerically enriched organic acid
- ② Separating one diastereomeric salt from the reaction mixture and
- ③ Converting the separated diastereomeric salt into the enantiomerically enriched 3-aminopentane nitrile.

STAFF USE ONLY

Searcher: Noble

Searcher Phone #: _____

Searcher Location: _____

Date Searcher Picked Up: _____

Date Completed: 8/31/05

Searcher Prep & Review Time: 10

Online Time: 29

Type of Search

____ NA Sequence (#)

____ AA Sequence (#)

2 Structure (#)

✓ Bibliographic

____ Litigation

____ Fulltext

____ Other

Vendors and cost where applicable

✓ STN _____ Dialog

____ Questel/Orbit _____ Lexis/Nexis

____ Westlaw _____ WWW/Internet

____ In-house sequence systems

____ Commercial _____ Oligomer _____ Score/Length

____ Interference _____ SPDI _____ Encode/Transl

____ Other (specify)

=> d his.

(FILE 'HOME' ENTERED AT 09:26:12 ON 31 AUG 2005)

FILE 'HCAPLUS' ENTERED AT 09:26:20 ON 31 AUG 2005

L1 1 US2004087811/PN OR (DE2002-10249339# OR US2003-690260#)/AP,PRN

FILE 'REGISTRY' ENTERED AT 09:27:18 ON 31 AUG 2005

FILE 'HCAPLUS' ENTERED AT 09:27:18 ON 31 AUG 2005

L2 TRA L1 1- RN : 51 TERMS

FILE 'REGISTRY' ENTERED AT 09:27:18 ON 31 AUG 2005

L3 51 SEA L2

FILE 'WPIX' ENTERED AT 09:27:21 ON 31 AUG 2005

L4 1 L1

=> b hcap;d all l1

FILE 'HCAPLUS' ENTERED AT 09:27:51 ON 31 AUG 2005

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FILE COVERS 1907 - 31 Aug 2005 VOL 143 ISS 10

FILE LAST UPDATED: 30 Aug 2005 (20050830/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

L1 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2004:348005 HCAPLUS

DN 140:356956

ED Entered STN: 29 Apr 2004

TI Resolution of 3-aminopentanenitrile using enantiomerically enriched organic acids.

IN Dreisbach, Claus; Schlummer, Bjoern

PA Bayer Chemicals AG, Germany

SO Eur. Pat. Appl., 11 pp.

CODEN: EPXXDW

DT Patent

LA German

IC ICM C07B057-00

ICS C07C255-24

CC 23-19 (Aliphatic Compounds)

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|--|------|----------|-----------------|--------------|
| PI | EP 1413565 | A2 | 20040428 | EP 2003-22897 | 20031009 <-- |
| | EP 1413565 | A3 | 20041013 | | |
| | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, | | | | |

Search done by Noble Jarrell

IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK
 DE 10249339 A1 20040513 DE 2002-10249339 20021022 <--
 JP 2004143170 A2 20040520 JP 2003-359355 20031020 <--
 US 2004087811 A1 20040506 US 2003-690260 20031021 <--
 CN 1496971 A 20040519 CN 2003-10102878 20031022 <--
 PRAI DE 2002-10249339 A 20021022 <--

CLASS

| PATENT NO. | CLASS | PATENT FAMILY CLASSIFICATION CODES |
|---------------|-------|---|
| EP 1413565 | ICM | C07B057-00 |
| | ICS | C07C255-24 |
| JP 2004143170 | FTERM | 4H006/AA02; 4H006/AC83; 4H006/AD15; 4H006/AD33; 4H006/BC51 |
| US 2004087811 | NCL | 558/463.000 |
| AB | | A process for obtention of enantiomerically enriched 3-aminopentanenitrile comprises treatment of racemic 3-aminopentanenitrile with an enantiomerically enriched organic acid to give 2 diastereomeric salts, separation of 1 of the salts from the reaction mixture, and conversion of the diastereomeric salt to enantiomerically enriched 3-aminopentanenitrile. Thus, reaction of racemic 3-aminopentanenitrile with (-)-diacetone-2-keto-L-gulonic acid in EtOH gave a precipitate which was recrystd. followed by dissoln. in 1N NaOH and extraction with CH2Cl2 to give (S)-3-aminopentanenitrile in 93.3% yield and 67.8% enantiomeric excess. |
| ST | | aminopentanenitrile resoln chiral org acid |
| IT | | Alcohols, uses RL: NUU (Other use, unclassified); USES (Uses) (C1-10; resolution of 3-aminopentanenitrile using enantiomerically enriched organic acids) |
| IT | | Amino acids, reactions RL: RCT (Reactant); RACT (Reactant or reagent) (chiral, resolving agents; resolution of 3-aminopentanenitrile using enantiomerically enriched organic acids) |
| IT | | Carboxylic acids, reactions RL: RCT (Reactant); RACT (Reactant or reagent) (chiral; resolution of 3-aminopentanenitrile using enantiomerically enriched organic acids) |
| IT | | Ethers, uses RL: NUU (Other use, unclassified); USES (Uses) (cyclic; resolution of 3-aminopentanenitrile using enantiomerically enriched organic acids) |
| IT | | Carboxylic acids, uses RL: NUU (Other use, unclassified); USES (Uses) (esters; resolution of 3-aminopentanenitrile using enantiomerically enriched organic acids) |
| IT | | Acids, reactions RL: RCT (Reactant); RACT (Reactant or reagent) (organic, chiral; resolution of 3-aminopentanenitrile using enantiomerically enriched organic acids) |
| IT | | Resolution (separation) (resolution of 3-aminopentanenitrile using enantiomerically enriched organic acids) |
| IT | | Aromatic hydrocarbons, uses Ethers, uses Nitriles, uses RL: NUU (Other use, unclassified); USES (Uses) (resolution of 3-aminopentanenitrile using enantiomerically enriched organic acids) |
| IT | | 400090-60-OP 639804-64-1P, (S)-3-Aminopentanenitrile RL: IMF (Industrial manufacture); PUR (Purification or recovery); SPN (Synthetic preparation); PREP (Preparation) (resolution of 3-aminopentanenitrile using enantiomerically enriched organic acids) |
| IT | | 60-29-7, Diethyl ether, uses 64-17-5, Ethanol, uses 67-56-1, Methanol, uses 67-63-0, Isopropanol, uses 71-23-8, n-Propanol, uses 75-05-8, Acetonitrile, uses 108-88-3, Toluene, uses 109-99-9, Tetrahydrofuran, uses 141-78-6, Ethyl acetate, uses 1634-04-4, tert-Butyl methyl ether |

RL: NUU (Other use, unclassified); USES (Uses)
(resolution of 3-aminopentanenitrile using enantiomerically enriched organic acids)

IT 75-75-2, Methanesulfonic acid 7601-90-3, Perchloric acid, reactions 7647-01-0, Hydrochloric acid, reactions 7664-38-2, Phosphoric acid, reactions 7664-39-3, Hydrofluoric acid, reactions 7664-93-9, Sulfuric acid, reactions 7697-37-2, Nitric acid, reactions 10034-85-2, Hydriodic acid 10035-10-6, Hydrobromic acid, reactions 75405-06-0, 3-Aminopentanenitrile

RL: RCT (Reactant); RACT (Reactant or reagent)
(resolution of 3-aminopentanenitrile using enantiomerically enriched organic acids)

IT 79-33-4, L-Lactic acid, reactions 87-69-4, L-Tartaric acid, reactions 87-69-4D, L-Tartaric acid, derivs. 97-67-6, L-Malic acid 98-79-3 1188-21-2, N-Acetyl-L-leucine 2488-15-5, N-Boc-L-methionine 2592-18-9, N-Boc-L-threonine 2743-38-6, (-)-O,O'-Dibenzoyl-L-tartaric acid 3262-72-4, N-Boc-L-serine 3978-80-1, N-Boc-L-tyrosine 5104-49-4, 2-(2-Fluoro-4-biphenyl)propionic acid 7536-55-2, N-Boc-L-asparagine 13139-15-6, N-(tert-Butoxycarbonyl)-L-leucine 13139-16-7, N-(tert-Butoxycarbonyl)-L-isoleucine 13734-34-4, N-Boc-L-phenylalanine 13734-41-3, N-Boc-L-valine 15761-38-3, N-Boc-L-alanine 15761-39-4, N-(tert-Butoxycarbonyl)-L-proline 17199-29-0, (S)-Mandelic acid 17791-52-5 18467-77-1 20246-53-1D, Gulonic acid, derivs. 22204-53-1 26164-26-1, (S)-Methoxyphenylacetic acid 40248-63-3, (-)-Menthoxycetic acid 47358-42-9 51146-56-6, (S)-(+)-2-(4-Isobutylphenyl)propionic acid 102936-05-0

RL: RCT (Reactant); RACT (Reactant or reagent)
(resolving agent; resolution of 3-aminopentanenitrile using enantiomerically enriched organic acids)

IT 79-09-4D, Propionic acid, derivs.

RL: RCT (Reactant); RACT (Reactant or reagent)
(resolving agents; resolution of 3-aminopentanenitrile using enantiomerically enriched organic acids)

=> b wpix;d all 14

FILE 'WPIX' ENTERED AT 09:27:56 ON 31 AUG 2005
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FILE LAST UPDATED: 26 AUG 2005 <20050826/UP>
MOST RECENT DERWENT UPDATE: 200555 <200555/DW>
DERWENT WORLD PATENTS INDEX SUBSCRIBER FILE, COVERS 1963 TO DATE

>>> FOR A COPY OF THE DERWENT WORLD PATENTS INDEX STN USER GUIDE,
PLEASE VISIT:
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>>> FOR DETAILS OF THE PATENTS COVERED IN CURRENT UPDATES, SEE
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GUIDES, PLEASE VISIT:
<http://thomsonderwent.com/support/userguides/> <<<

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DOCUMENTATION NOW AVAILABLE IN DERWENT WORLD PATENTS INDEX
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FOR FURTHER DETAILS: <http://www.thomsonderwent.com/dwpifv> <<<

>>> THE CPI AND EPI MANUAL CODES HAVE BEEN REVISED FROM UPDATE 200501.
PLEASE CHECK:
<http://thomsonderwent.com/support/dwpieref/reftools/classification/code-revision/>
FOR DETAILS. <<<

'BIX BI,ABEX' IS DEFAULT SEARCH FIELD FOR 'WPIX' FILE

L4 ANSWER 1 OF 1 WPIX COPYRIGHT 2005 THE THOMSON CORP on STN
AN 2004-349508 [33] WPIX
DNC C2004-132937
TI Production of enantiomer enriched 3-aminopentanitrile e.g. used as
pharmaceutical intermediate, comprises reacting racemic
3-aminopentanitrile with enantiomer enriched organic acid and separating
diastereomeric salts.
DC B05
IN DREISBACH, C; SCHLUMMER, B
PA (FARB) BAYER AG; (FARB) BAYER CHEM AG; (DREI-I) DREISBACH C; (SCHL-I)
SCHLUMMER B
CYC 35
PI EP 1413565 A2 20040428 (200433)* GE 11 C07B057-00
R: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LT LU LV
MC MK NL PT RO SE SI SK TR
DE 10249339 A1 20040513 (200433) C07C255-24
US 2004087811 A1 20040506 (200433) C07C255-30 <--
JP 2004143170 A 20040520 (200434) 14 C07C253-32
CN 1496971 A 20040519 (200455) C07C055-24
KR 2004035568 A 20040429 (200456) C07C253-30
ADT EP 1413565 A2 EP 2003-22897 20031009; DE 10249339 A1 DE 2002-10249339
20021022; US 2004087811 A1 US 2003-690260 20031021; JP
2004143170 A JP 2003-359355 20031020; CN 1496971 A CN 2003-1102878
20031022; KR 2004035568 A KR 2003-73259 20031021
PRAI DE 2002-10249339 20021022
IC ICM C07B057-00; C07C055-24; C07C253-30; C07C253-32; C07C255-24;
C07C255-30
ICS C07C253-30
AB EP 1413565 A UPAB: 20041125
NOVELTY - Production of enantiomer-enriched 3-aminopentanitrile (APN)
comprises reacting racemic APN with an enantiomer enriched organic acid to
form two diastereomeric salts, separating one of the salts and converting
it to enantiomer enriched APN or its salts.
USE - (R)-3-aminopentanitrile is useful as a pharmaceutical
intermediate.
ADVANTAGE - Products with a high enantiomeric excess (e.g. 60-80%)
can be produced.
Dwg.0/0
FS CPI
FA AB; DCN
MC CPI: B10-A15

=> b home

FILE 'HOME' ENTERED AT 09:28:01 ON 31 AUG 2005

=>

=> b reg;d ide l10 tot

FILE 'REGISTRY' ENTERED AT 09:42:45 ON 31 AUG 2005

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Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 30 AUG 2005 HIGHEST RN 862155-39-3

DICTIONARY FILE UPDATES: 30 AUG 2005 HIGHEST RN 862155-39-3

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2005

Please note that search-term pricing does apply when conducting SmartSELECT searches.

```
*****
*
* The CA roles and document type information have been removed from *
* the IDE default display format and the ED field has been added, *
* effective March 20, 2005. A new display format, IDERL, is now *
* available and contains the CA role and document type information. *
*
*****
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Structure search iteration limits have been increased. See HELP SLIMITS for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:
<http://www.cas.org/ONLINE/DBSS/registryss.html>

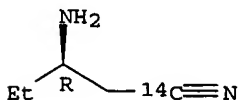
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L10 ANSWER 1 OF 9 REGISTRY COPYRIGHT 2005 ACS on STN
RN 853125-08-3 REGISTRY
ED Entered STN: 28 Jun 2005
CN Pentanenitrile-1-14C, 3-amino-, (3R)-, monomethanesulfonate (9CI)
   (CA INDEX NAME)
FS STEREOSEARCH
MF C5 H10 N2 . C H4 O3 S
SR CA
LC STN Files: CA, CAPLUS
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CRN 853125-07-2

CMF C5 H10 N2

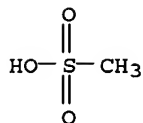
Absolute stereochemistry.



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CRN 75-75-2

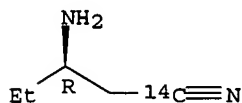
CMF C H4 O3 S



1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L10 ANSWER 2 OF 9 REGISTRY COPYRIGHT 2005 ACS on STN
RN 853125-07-2 REGISTRY
ED Entered STN: 28 Jun 2005
CN Pentanenitrile-1-14C, 3-amino-, (3R)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C5 H10 N2
CI COM
SR CA

Absolute stereochemistry.

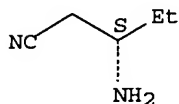


L10 ANSWER 3 OF 9 REGISTRY COPYRIGHT 2005 ACS on STN
RN 688007-62-7 REGISTRY
ED Entered STN: 01 Jun 2004
CN Pentanenitrile, 3-amino-, (3S)-, (2R,3R)-2,3-dihydroxybutanedioate
(9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C5 H10 N2 . x C4 H6 O6
SR CA
LC STN Files: CA, CAPLUS

CM 1

CRN 639804-64-1
CMF C5 H10 N2

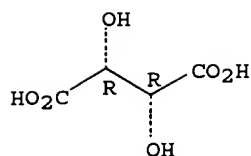
Absolute stereochemistry.



CM 2

CRN 87-69-4
CMF C4 H6 O6

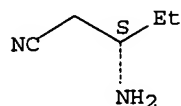
Absolute stereochemistry.



1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L10 ANSWER 4 OF 9 REGISTRY COPYRIGHT 2005 ACS on STN
RN 639804-64-1 REGISTRY
ED Entered STN: 21 Jan 2004
CN Pentanenitrile, 3-amino-, (3S)- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN (S)-3-Aminopentanenitrile
FS STEREOSEARCH
MF C5 H10 N2
CI COM
SR CA
LC STN Files: CA, CAPLUS, CASREACT, USPATFULL

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

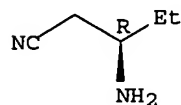
5 REFERENCES IN FILE CA (1907 TO DATE)
5 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L10 ANSWER 5 OF 9 REGISTRY COPYRIGHT 2005 ACS on STN
RN 474645-97-1 REGISTRY
ED Entered STN: 27 Nov 2002
CN Pentanenitrile, 3-amino-, (3R)-, monomethanesulfonate (9CI) (CA INDEX NAME)
OTHER NAMES:
CN (R)-3-Aminopentanenitrile methanesulfonate salt
CN (R)-3-Aminopentanenitrile methanesulfonic acid salt
FS STEREOSEARCH
MF C5 H10 N2 . C H4 O3 S
SR CA
LC STN Files: CA, CAPLUS, CASREACT, USPAT2, USPATFULL

CM 1

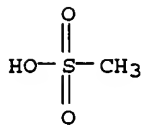
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CMF C5 H10 N2

Absolute stereochemistry.



CM 2

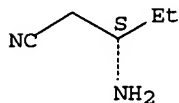
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CMF C H4 O3 S



5 REFERENCES IN FILE CA (1907 TO DATE)
5 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L10 ANSWER 6 OF 9 REGISTRY COPYRIGHT 2005 ACS on STN
RN 400090-62-2 REGISTRY
ED Entered STN: 11 Mar 2002
CN Pentanenitrile, 3-amino-, monohydrochloride, (3S)- (9CI) (CA
INDEX NAME)
OTHER NAMES:
CN (S)-3-Aminopentanenitrile hydrochloride
FS STEREOSEARCH
MF C5 H10 N2 . Cl H
SR CA
LC STN Files: CA, CAPLUS, CASREACT, TOXCENTER
CRN (639804-64-1)

Absolute stereochemistry.

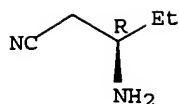


● HCl

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L10 ANSWER 7 OF 9 REGISTRY COPYRIGHT 2005 ACS on STN
RN 400090-61-1 REGISTRY
ED Entered STN: 11 Mar 2002
CN Pentanenitrile, 3-amino-, monohydrochloride, (3R)- (9CI) (CA
INDEX NAME)
OTHER NAMES:
CN (R)-3-Aminopentanenitrile hydrochloride
FS STEREOSEARCH
MF C5 H10 N2 . Cl H
SR CA
LC STN Files: CA, CAPLUS, CASREACT, TOXCENTER, USPATFULL
CRN (400090-60-0)

Absolute stereochemistry.

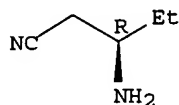


● HCl

2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L10 ANSWER 8 OF 9 REGISTRY COPYRIGHT 2005 ACS on STN
RN 400090-60-0 REGISTRY
ED Entered STN: 11 Mar 2002
CN Pentanenitrile, 3-amino-, (3R)- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN (R)-3-Aminopentanenitrile
FS STEREOSEARCH
MF C5 H10 N2
CI COM
SR CA
LC STN Files: CA, CAPLUS, CASREACT, CHEMCATS, TOXCENTER, USPAT2, USPATFULL

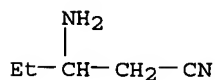
Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

11 REFERENCES IN FILE CA (1907 TO DATE)
11 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L10 ANSWER 9 OF 9 REGISTRY COPYRIGHT 2005 ACS on STN
RN 75405-06-0 REGISTRY
ED Entered STN: 16 Nov 1984
CN Pentanenitrile, 3-amino- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN 3-Aminopentanenitrile
FS 3D CONCORD
MF C5 H10 N2
CI COM
LC STN Files: BIOSIS, CA, CAPLUS, CASREACT, CHEMLIST, PROMT, RTECS*,
TOXCENTER, USPATFULL
(*File contains numerically searchable property data)
Other Sources: TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

14 REFERENCES IN FILE CA (1907 TO DATE)

Search done by Noble Jarrell

14 REFERENCES IN FILE CAPLUS (1907 TO DATE)

=> => d his full

(FILE 'HOME' ENTERED AT 09:26:12 ON 31 AUG 2005)

FILE 'HCAPLUS' ENTERED AT 09:26:20 ON 31 AUG 2005

L1 1 SEA ABB=ON PLU=ON US2004087811/PN OR (DE2002-10249339# OR
US2003-690260#)/AP,PRN

FILE 'REGISTRY' ENTERED AT 09:27:18 ON 31 AUG 2005

L2 FILE 'HCAPLUS' ENTERED AT 09:27:18 ON 31 AUG 2005
TRA L1 1- RN : 51 TERMS

FILE 'REGISTRY' ENTERED AT 09:27:18 ON 31 AUG 2005

L3 51 SEA ABB=ON PLU=ON L2

FILE 'WPIX' ENTERED AT 09:27:21 ON 31 AUG 2005

L4 1 SEA ABB=ON PLU=ON US2004087811/PN OR (DE2002-10249339# OR
US2003-690260#)/AP,PRN

FILE 'REGISTRY' ENTERED AT 09:36:49 ON 31 AUG 2005

L5 1 SEA ABB=ON PLU=ON 639804-64-1 AND L3
L6 500 SEA ABB=ON PLU=ON C5H10N2
L7 QUE ABB=ON PLU=ON (PMS OR MAN OR IDS)/CI OR UNSPECIFIED OR
COMPD OR COMPOUND OR (D OR T)/ELS
L8 402 SEA ABB=ON PLU=ON L6 NOT L7
L9 30 SEA ABB=ON PLU=ON L8 AND 3(1A)AMINO
L10 9 SEA ABB=ON PLU=ON (400090-60-0/BI OR 400090-61-1/BI OR
400090-62-2/BI OR 474645-97-1/BI OR 639804-64-1/BI OR 688007-62
-7/BI OR 75405-06-0/BI OR 853125-07-2/BI OR 853125-08-3/BI)
AND L9

FILE 'HCAPLUS' ENTERED AT 09:43:36 ON 31 AUG 2005

L11 21 SEA ABB=ON PLU=ON L10
L12 24 SEA ABB=ON PLU=ON 3(1A) (AMINOPENTANENITRILE OR AMINO(4A) (PENT
ANENITRILE OR PENTANE(1A)NITRILE))
L13 25 SEA ABB=ON PLU=ON (L11 OR L12)
L14 4 SEA ABB=ON PLU=ON L13(L) PUR/RL
E DREISBACH C/AU
L15 30 SEA ABB=ON PLU=ON ("DREISBACH C"/AU OR "DREISBACH CLAUS"/AU)
E SCHLUMMER B/AU
L16 13 SEA ABB=ON PLU=ON ("SCHLUMMER BJOERN"/AU OR "SCHLUMMER
BJORN"/AU)
L17 45851 SEA ABB=ON PLU=ON BAYER/CS,PA
L18 1 SEA ABB=ON PLU=ON L14 AND (L15 OR L16 OR L17)
L19 3 SEA ABB=ON PLU=ON L14 NOT L17

FILE 'HCAOLD' ENTERED AT 09:48:57 ON 31 AUG 2005

L20 0 SEA ABB=ON PLU=ON (L11 OR L12)

FILE 'USPATFULL, USPAT2' ENTERED AT 09:49:36 ON 31 AUG 2005

L21 17 SEA ABB=ON PLU=ON L11
E DREISBACH C/AU
E DREISBACH C/AU
L22 23 SEA ABB=ON PLU=ON "DREISBACH CLAUS"/AU
E SCHLUMMER B/AU
E SCHLUMMER B/AU
L23 3 SEA ABB=ON PLU=ON "SCHLUMMER BJORN"/AU
L24 14461 SEA ABB=ON PLU=ON L17
L25 1 SEA ABB=ON PLU=ON L21 AND (L22 OR L23 OR L24)
E RESOLUTION (SEPARATION)/CT
L26 4 SEA ABB=ON PLU=ON "RESOLUTION (SEPARATION)"/CT AND L21
L27 3 SEA ABB=ON PLU=ON L26 NOT L25

FILE 'WPIX' ENTERED AT 09:55:40 ON 31 AUG 2005

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D DRN DCN L4
SEL DCN L4
L28      17 SEA ABB=ON  PLU=ON  (RA6AFL/SDCN OR RA7WAS/SDCN OR R00204/SDCN
OR R00245/SDCN OR R00270/SDCN OR R00271/SDCN OR R00302/SDCN OR
R00342/SDCN OR R00671/SDCN OR R00862/SDCN OR R00895/SDCN OR
R01135/SDCN OR R01287/SDCN OR R01391/SDCN OR R01568/SDCN OR
R10627/SDCN OR R19493/SDCN OR RAAVHB/SDCN)
L29      1 SEA ABB=ON  PLU=ON  L28 AND C5 H10 N2/MF
L30      18 SEA ABB=ON  PLU=ON  C5 H10 N2/MF
L31      3 SEA ABB=ON  PLU=ON  L30 AND (DCR-923913 OR DCR-738940 OR
DCR-211181)/AN.S
SEL SDCN L31
L32      10 SEA ABB=ON  PLU=ON  (RAAVHB/DCN OR RAEPP0/DCN OR RA085P/DCN)
E DREISBACH C/AU
L33      19 SEA ABB=ON  PLU=ON  "DREISBACH C"/AU
E SCHLUMMER B/AU
L34      5 SEA ABB=ON  PLU=ON  "SCHLUMMER B"/AU
L35      30820 SEA ABB=ON  PLU=ON  BAYER/CS,PA
L36      30209 SEA ABB=ON  PLU=ON  FARB/PACO
L37      1 SEA ABB=ON  PLU=ON  L32 AND (L33 OR L34 OR L35 OR L36)
L38      9 SEA ABB=ON  PLU=ON  L32 NOT L37
L39      175186 SEA ABB=ON  PLU=ON  (B11-B OR C11-B OR E11-L OR E11-Q OR
E11-Q01?)/MC OR N16?/M0,M1,M2,M3,M4,M5,M6 OR (C07C055 OR
C07C057)/IPC
L40      1 SEA ABB=ON  PLU=ON  L38 AND L39
L41      9 SEA ABB=ON  PLU=ON  (L38 OR L40)

```

=> b hcap

FILE 'HCAPLUS' ENTERED AT 10:43:04 ON 31 AUG 2005

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FILE COVERS 1907 - 31 Aug 2005 VOL 143 ISS 10

FILE LAST UPDATED: 30 Aug 2005 (20050830/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d all fhitrstr 118 tot

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L18 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2004:348005 HCAPLUS
DN 140:356956
ED Entered STN: 29 Apr 2004
TI Resolution of 3-aminopentanenitrile using enantiomerically enriched
organic acids.
IN Dreisbach, Claus; Schlummer, Bjoern
PA Bayer Chemicals AG, Germany
SO Eur. Pat. Appl., 11 pp.
CODEN: EPXXDW

```

Search done by Noble Jarrell

DT Patent
 LA German
 IC ICM C07B057-00
 ICS C07C255-24
 CC 23-19 (Aliphatic Compounds)
 FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|---|------|----------|------------------|----------|
| PI | EP 1413565 | A2 | 20040428 | EP 2003-22897 | 20031009 |
| | EP 1413565 | A3 | 20041013 | | |
| | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK | | | | |
| | DE 10249339 | A1 | 20040513 | DE 2002-10249339 | 20021022 |
| | JP 2004143170 | A2 | 20040520 | JP 2003-359355 | 20031020 |
| | US 2004087811 | A1 | 20040506 | US 2003-690260 | 20031021 |
| | CN 1496971 | A | 20040519 | CN 2003-10102878 | 20031022 |
| PRAI | DE 2002-10249339 | A | 20021022 | | |

CLASS

| PATENT NO. | CLASS | PATENT FAMILY CLASSIFICATION CODES |
|---------------|-------|--|
| EP 1413565 | ICM | C07B057-00 |
| | ICS | C07C255-24 |
| JP 2004143170 | FTERM | 4H006/AA02; 4H006/AC83; 4H006/AD15; 4H006/AD33; 4H006/BC51 |
| US 2004087811 | NCL | 558/463.000 |

AB A process for obtention of enantiomerically enriched 3-aminopentanenitrile comprises treatment of racemic 3-aminopentanenitrile with an enantiomerically enriched organic acid to give 2 diastereomeric salts, separation of 1 of the salts from the reaction mixture, and conversion of the diastereomeric salt to enantiomerically enriched 3-aminopentanenitrile. Thus, reaction of racemic 3-aminopentanenitrile with (-)-diacetone-2-keto-L-gulonic acid in EtOH gave a precipitate which was recrystd. followed by dissoln. in 1N NaOH and extraction with CH₂Cl₂ to give (S)-3-aminopentanenitrile in 93.3% yield and 67.8% enantiomeric excess.

ST aminopentanenitrile resoln chiral org acid

IT Alcohols, uses

RL: NUU (Other use, unclassified); USES (Uses)
 (C1-10; resolution of 3-aminopentanenitrile using enantiomerically enriched organic acids)

IT Amino acids, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)
 (chiral, resolving agents; resolution of 3-aminopentanenitrile using enantiomerically enriched organic acids)

IT Carboxylic acids, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)
 (chiral; resolution of 3-aminopentanenitrile using enantiomerically enriched organic acids)

IT Ethers, uses

RL: NUU (Other use, unclassified); USES (Uses)
 (cyclic; resolution of 3-aminopentanenitrile using enantiomerically enriched organic acids)

IT Carboxylic acids, uses

RL: NUU (Other use, unclassified); USES (Uses)
 (esters; resolution of 3-aminopentanenitrile using enantiomerically enriched organic acids)

IT Acids, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)
 (organic, chiral; resolution of 3-aminopentanenitrile using enantiomerically enriched organic acids)

IT Resolution (separation)

(resolution of 3-aminopentanenitrile using enantiomerically enriched organic acids)

IT Aromatic hydrocarbons, uses

Ethers, uses

Nitriles, uses

RL: NUU (Other use, unclassified); USES (Uses)

(resolution of 3-aminopentanenitrile using enantiomerically enriched organic acids)

IT 400090-60-OP 639804-64-1P, (S)-3-

Aminopentanenitrile

RL: IMF (Industrial manufacture); PUR (Purification or recovery)

; SPN (Synthetic preparation); PREP (Preparation)

(resolution of 3-aminopentanenitrile using enantiomerically enriched organic acids)

IT 60-29-7, Diethyl ether, uses 64-17-5, Ethanol, uses 67-56-1, Methanol, uses 67-63-0, Isopropanol, uses 71-23-8, n-Propanol, uses 75-05-8, Acetonitrile, uses 108-88-3, Toluene, uses 109-99-9, Tetrahydrofuran, uses 141-78-6, Ethyl acetate, uses 1634-04-4, tert-Butyl methyl ether

RL: NUU (Other use, unclassified); USES (Uses)

(resolution of 3-aminopentanenitrile using enantiomerically enriched organic acids)

IT 75-75-2, Methanesulfonic acid 7601-90-3, Perchloric acid, reactions 7647-01-0, Hydrochloric acid, reactions 7664-38-2, Phosphoric acid, reactions 7664-39-3, Hydrofluoric acid, reactions 7664-93-9, Sulfuric acid, reactions 7697-37-2, Nitric acid, reactions 10034-85-2, Hydriodic acid 10035-10-6, Hydrobromic acid, reactions 75405-06-0, 3-Aminopentanenitrile

RL: RCT (Reactant); RACT (Reactant or reagent)

(resolution of 3-aminopentanenitrile using enantiomerically enriched organic acids)

IT 79-33-4, L-Lactic acid, reactions 87-69-4, L-Tartaric acid, reactions 87-69-4D, L-Tartaric acid, derivs. 97-67-6, L-Malic acid 98-79-3 1188-21-2, N-Acetyl-L-leucine 2488-15-5, N-Boc-L-methionine 2592-18-9, N-Boc-L-threonine 2743-38-6, (-)-O,O'-Dibenzoyl-L-tartaric acid 3262-72-4, N-Boc-L-serine 3978-80-1, N-Boc-L-tyrosine 5104-49-4, 2-(2-Fluoro-4-biphenyl)propionic acid 7536-55-2, N-Boc-L-asparagine 13139-15-6, N-(tert-Butoxycarbonyl)-L-leucine 13139-16-7, N-(tert-Butoxycarbonyl)-L-isoleucine 13734-34-4, N-Boc-L-phenylalanine 13734-41-3, N-Boc-L-valine 15761-38-3, N-Boc-L-alanine 15761-39-4, N-(tert-Butoxycarbonyl)-L-proline 17199-29-0, (S)-Mandelic acid 17791-52-5 18467-77-1 20246-53-1D, Gulonic acid, derivs. 22204-53-1 26164-26-1, (S)-Methoxyphenylacetic acid 40248-63-3, (-)-Menthoxycetic acid 47358-42-9 51146-56-6, (S)-(+)-2-(4-Isobutylphenyl)propionic acid 102936-05-0

RL: RCT (Reactant); RACT (Reactant or reagent)

(resolving agent; resolution of 3-aminopentanenitrile using enantiomerically enriched organic acids)

IT 79-09-4D, Propionic acid, derivs.

RL: RCT (Reactant); RACT (Reactant or reagent)

(resolving agents; resolution of 3-aminopentanenitrile using enantiomerically enriched organic acids)

IT 400090-60-OP

RL: IMF (Industrial manufacture); PUR (Purification or recovery)

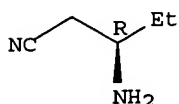
; SPN (Synthetic preparation); PREP (Preparation)

(resolution of 3-aminopentanenitrile using enantiomerically enriched organic acids)

RN 400090-60-0 HCAPLUS

CN Pentanenitrile, 3-amino-, (3R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



=> d all hitstr 119 tot

L19 ANSWER 1 OF 3 HCAPLUS COPYRIGHT 2005 ACS on STN

Search done by Noble Jarrell

AN 2004:513157 HCAPLUS
 DN 141:70362
 ED Entered STN: 25 Jun 2004
 TI Enzyme catalyzed preparation of enantiomerically enriched
 aminopentanenitrile
 IN Allen, David R.; Mozhaev, Vadim V.; Valivety, Rao H.
 PA USA
 SO U.S. Pat. Appl. Publ., 12 pp.
 CODEN: USXXCO
 DT Patent
 LA English
 IC ICM C12P013-00
 INCL 435128000
 CC 16-5 (Fermentation and Bioindustrial Chemistry)
 Section cross-reference(s): 7, 23

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|--|------|----------|-----------------|----------|
| PI | US 2004121435 | A1 | 20040624 | US 2002-327492 | 20021220 |
| | WO 2004058701 | A2 | 20040715 | WO 2003-US40508 | 20031219 |
| | W: | | | | |
| | AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, | | | | |
| | CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, | | | | |
| | GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, | | | | |
| | LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, | | | | |
| | PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, | | | | |
| | TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW | | | | |
| | RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, AM, AZ, | | | | |
| | BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, | | | | |
| | ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, | | | | |
| | TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG | | | | |
| PRAI | US 2002-327492 | A | 20021220 | | |

CLASS

| PATENT NO. | CLASS | PATENT FAMILY CLASSIFICATION CODES |
|---------------|-------|------------------------------------|
| US 2004121435 | ICM | C12P013-00 |
| | INCL | 435128000 |
| US 2004121435 | NCL | 435/128.000 |
| | ECLA | C12P013/00; C12P041/00D2 |
| WO 2004058701 | ECLA | C12P013/00; C12P041/00D2 |

OS CASREACT 141:70362

AB Methods for preparing enantiomerically enriched aminopentanenitriles are provided. The methods involve selective acylation of an enantiomeric mixture of 3-aminopentanenitrile or selective hydrolysis of an enantiomeric mixture of 3-aminopentanenitrile amide in the presence of an enzyme selected from the group comprising lipase, esterase, and acylase. The methods yield R-aminopentanenitrile, which can be used to produce pharmaceutical products.

ST enantiomerically enriched aminopentanenitrile enzymic prepn

IT Binary systems

(aqueous two-phase; enzyme catalyzed preparation of enantiomerically enriched aminopentanenitrile)

IT pH

(biol. effect of; enzyme catalyzed preparation of enantiomerically enriched aminopentanenitrile)

IT Enzymes, uses

RL: BCP (Biochemical process); CAT (Catalyst use); BIOL (Biological study); PROC (Process); USES (Uses)

(com.; enzyme catalyzed preparation of enantiomerically enriched aminopentanenitrile)

IT Temperature effects, biological

(enzyme catalyzed preparation of enantiomerically enriched aminopentanenitrile)

IT Resolution (separation)

(enzymic, kinetic; enzyme catalyzed preparation of enantiomerically enriched aminopentanenitrile)

IT Hydrolysis

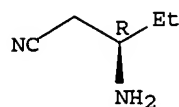
- (enzymic, stereoselective; enzyme catalyzed preparation of enantiomerically enriched aminopentanenitrile)
- IT Acylation
Hydrolysis
(enzymic; enzyme catalyzed preparation of enantiomerically enriched aminopentanenitrile)
- IT Enzymes, uses
RL: BCP (Biochemical process); CAT (Catalyst use); BIOL (Biological study); PROC (Process); USES (Uses)
(immobilized; enzyme catalyzed preparation of enantiomerically enriched aminopentanenitrile)
- IT Acylation
(stereoselective; enzyme catalyzed preparation of enantiomerically enriched aminopentanenitrile)
- IT 67-56-1, Methanol, processes 71-43-2, Benzene, processes 75-05-8, Acetonitrile, processes 75-09-2, Methylene chloride, processes 108-88-3, Toluene, processes 109-99-9, Tetrahydrofuran, processes 110-86-1, Pyridine, processes 123-91-1, 1,4-Dioxane, processes 1634-04-4, Methyl tert-butyl ether 7732-18-5, Water, processes
RL: BCP (Biochemical process); BIOL (Biological study); PROC (Process)
(enzyme catalyzed preparation of enantiomerically enriched aminopentanenitrile)
- IT 710339-75-6P 710339-76-7P 710339-77-8P 710339-78-9P
RL: BCP (Biochemical process); BMF (Bioindustrial manufacture); RCT (Reactant); BIOL (Biological study); PREP (Preparation); PROC (Process); RACT (Reactant or reagent)
(enzyme catalyzed preparation of enantiomerically enriched aminopentanenitrile)
- IT 9001-62-1, Chirazyme L-1 9014-06-6, Penicillin acylase 9016-18-6, Carboxyl esterase 9026-00-0, Cholesterol esterase
RL: BCP (Biochemical process); CAT (Catalyst use); BIOL (Biological study); PROC (Process); USES (Uses)
(enzyme catalyzed preparation of enantiomerically enriched aminopentanenitrile)
- IT 101-41-7, Methyl phenylacetate 103-81-1, Benzeneacetamide 103-82-2, Phenylacetic acid, reactions 123-20-6, Vinyl butyrate 123-86-4, Butyl acetate 141-78-6, Ethyl acetate, reactions 371-27-7 769-78-8, Vinyl benzoate 2065-23-8, Methyl phenoxyacetate 2146-71-6, Vinyl laurate 2743-38-6, Dibenzoyl-L-tartaric acid 3050-69-9, Vinyl caproate 75405-06-0, 3-Aminopentanenitrile 94808-70-5 177536-74-2 710339-74-5
RL: BCP (Biochemical process); RCT (Reactant); BIOL (Biological study); PROC (Process); RACT (Reactant or reagent)
(enzyme catalyzed preparation of enantiomerically enriched aminopentanenitrile)
- IT 639804-66-3P
RL: BMF (Bioindustrial manufacture); IMF (Industrial manufacture); BIOL (Biological study); PREP (Preparation)
(enzyme catalyzed preparation of enantiomerically enriched aminopentanenitrile)
- IT 400090-60-0P, R-3-Aminopentanenitrile
639804-64-1P, S-3-Aminopentanenitrile
RL: BMF (Bioindustrial manufacture); PUR (Purification or recovery); BIOL (Biological study); PREP (Preparation)
(enzyme catalyzed preparation of enantiomerically enriched aminopentanenitrile)
- IT 75-75-2, Methanesulfonic acid 103-80-0, Phenylacetyl chloride
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(enzyme catalyzed preparation of enantiomerically enriched aminopentanenitrile)
- IT 474645-97-1P, R-3-Aminopentanenitrile methanesulfonate salt
RL: IMF (Industrial manufacture); PREP (Preparation)
(enzyme catalyzed preparation of enantiomerically enriched aminopentanenitrile)
- IT 400090-60-0P, R-3-Aminopentanenitrile
639804-64-1P, S-3-Aminopentanenitrile

RL: BMF (Bioindustrial manufacture); PUR (Purification or recovery); BIOL (Biological study); PREP (Preparation)
(enzyme catalyzed preparation of enantiomerically enriched aminopentanenitrile)

RN 400090-60-0 HCAPLUS

CN Pentanenitrile, 3-amino-, (3R)- (9CI) (CA INDEX NAME)

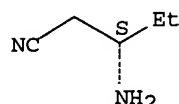
Absolute stereochemistry.



RN 639804-64-1 HCAPLUS

CN Pentanenitrile, 3-amino-, (3S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L19 ANSWER 2 OF 3 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2004:409942 HCAPLUS

DN 140:391069

ED Entered STN: 20 May 2004

TI Preparation of optically active aminopentanenitrile

IN Morii, Seiji; Sato, Haruyo

PA Toray Industries, Inc., Japan

SO Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C07C253-34

ICS C07C255-24; C07B057-00; C07M007-00

CC 23-19 (Aliphatic Compounds)

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|----------------|------|----------|-----------------|----------|
| PI | JP 2004143108 | A2 | 20040520 | JP 2002-311182 | 20021025 |
| PRAI | JP 2002-311182 | | 20021025 | | |

CLASS

| PATENT NO. | CLASS | PATENT FAMILY CLASSIFICATION CODES |
|---------------|-------|--|
| JP 2004143108 | ICM | C07C253-34 |
| | ICS | C07C255-24; C07B057-00; C07M007-00 |
| JP 2004143108 | FTERM | 4H006/AA02; 4H006/AC83; 4H006/AD15; 4H006/BB14; 4H006/BB31 |

OS MARPAT 140:391069

AB Title compound (I) is prepared by mixing racemic I with optically active carboxylic acids in solvents and crystallizing diastereomer salts. Racemic 3-I was mixed with N-benzenesulfonyl-L-phenylalanine in aqueous MeOH in the presence of HCl at 60° and cooled to 40° to give 54.1% diastereomer salt, which was treated with aqueous HCl, filtered, and the filtrate was treated with aqueous NaOH to give 50.1% (based on S-isomer in racemic I) (S)-3-I.

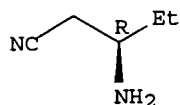
ST aminopentanenitrile optical resolu carboxylic acid diastereomer; phenylalanine benzenesulfonyl aminopentanenitrile optical resolu diastereomer

IT Amino acids, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)

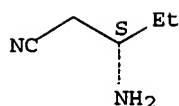
- (acidic; optical resolution of aminopentanenitrile by diastereomer salt formation with carboxylic acids)
- IT Amino acids, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(aromatic; optical resolution of aminopentanenitrile by diastereomer salt formation with carboxylic acids)
- IT Resolution (separation)
(optical resolution of aminopentanenitrile by diastereomer salt formation with carboxylic acids)
- IT Carboxylic acids, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(optical resolution of aminopentanenitrile by diastereomer salt formation with carboxylic acids)
- IT Alcohols, uses
RL: NUU (Other use, unclassified); USES (Uses)
(solvents; optical resolution of aminopentanenitrile by diastereomer salt formation with carboxylic acids)
- IT 400090-60-OP 639804-64-1P, (S)-3-Aminopentanenitrile
RL: IMF (Industrial manufacture); PUR (Purification or recovery)
; SPN (Synthetic preparation); PREP (Preparation)
(optical resolution of aminopentanenitrile by diastereomer salt formation with carboxylic acids)
- IT 688007-61-6P 688007-62-7P 688007-63-8P 688007-64-9P 688007-65-0P
688007-66-1P 688007-67-2P 688007-68-3P
RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(optical resolution of aminopentanenitrile by diastereomer salt formation with carboxylic acids)
- IT 87-69-4, L-Tartaric acid, reactions 1155-62-0, N-Benzyloxycarbonyl-L-glutamic acid 4816-80-2 13505-32-3 17447-35-7 20531-36-6,
N-Benzenesulfonyl-L-glutamic acid 32634-68-7 40279-94-5 40279-95-6,
N-Benzenesulfonyl-L-phenylalanine 75405-06-0, 3-Aminopentanenitrile
RL: RCT (Reactant); RACT (Reactant or reagent)
(optical resolution of aminopentanenitrile by diastereomer salt formation with carboxylic acids)
- IT 67-56-1, Methanol, uses 7732-18-5, Water, uses
RL: NUU (Other use, unclassified); USES (Uses)
(solvent; optical resolution of aminopentanenitrile by diastereomer salt formation with carboxylic acids)
- IT 400090-60-OP 639804-64-1P, (S)-3-Aminopentanenitrile
RL: IMF (Industrial manufacture); PUR (Purification or recovery)
; SPN (Synthetic preparation); PREP (Preparation)
(optical resolution of aminopentanenitrile by diastereomer salt formation with carboxylic acids)
- RN 400090-60-0 HCAPLUS
CN Pentanenitrile, 3-amino-, (3R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



- RN 639804-64-1 HCAPLUS
CN Pentanenitrile, 3-amino-, (3S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L19 ANSWER 3 OF 3 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 2001:924400 HCAPLUS
 DN 136:196692
 ED Entered STN: 23 Dec 2001
 TI Isolation and structure determination of obyanamide, a novel cytotoxic cyclic depsipeptide from the marine cyanobacterium *Lyngbya confervoides*
 AU Williams, Philip G.; Yoshida, Wesley Y.; Moore, Richard E.; Paul, Valerie J.
 CS Department of Chemistry, University of Hawaii at Manoa, Honolulu, HI, 96822, USA
 SO Journal of Natural Products (2002), 65(1), 29-31
 CODEN: JNPRDF; ISSN: 0163-3864
 PB American Chemical Society
 DT Journal
 LA English
 CC 10-1 (Microbial, Algal, and Fungal Biochemistry)
 OS CASREACT 136:196692
 AB Obyanamide was isolated from a variety of the marine cyanobacterium *L. confervoides* collected in Saipan, Commonwealth of the Northern Mariana Islands. Gross structure elucidation of this novel cyclic depsipeptide relied on extensive application of 2D NMR techniques. The absolute stereochem. was deduced by chiral chromatog. of the hydrolysis products and comparison with authentic and synthetic stds. Obyanamide was cytotoxic against KB cells with an IC50 of 0.58 µg/mL.
 ST obyanamide cytotoxin cyclic depsipeptide *Lyngbya*
 IT Toxins
 RL: BSU (Biological study, unclassified); NPO (Natural product occurrence); PRP (Properties); PUR (Purification or recovery); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation)
 (cytotoxins; obyanamide, a novel cytotoxic cyclic depsipeptide from the marine cyanobacterium *Lyngbya confervoides*)
 IT Peptides, biological studies
 RL: BSU (Biological study, unclassified); NPO (Natural product occurrence); PRP (Properties); PUR (Purification or recovery); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation)
 (depsipeptides, cyclic; obyanamide, a novel cytotoxic cyclic depsipeptide from the marine cyanobacterium *Lyngbya confervoides*)
 IT New natural products
 (obyanamide (cyclic depsipeptide))
 IT *Lyngbya confervoides*
 (obyanamide, a novel cytotoxic cyclic depsipeptide from the marine cyanobacterium *Lyngbya confervoides*)
 IT Molecular structure, natural product
 (of obyanamide (cyclic depsipeptide))
 IT 401818-00-6P, Obyanamide
 RL: BSU (Biological study, unclassified); NPO (Natural product occurrence); PRP (Properties); PUR (Purification or recovery); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation)
 (obyanamide, a novel cytotoxic cyclic depsipeptide from the marine cyanobacterium *Lyngbya confervoides*)
 IT 150736-71-3P, (R)-N-tert-Butyloxycarbonyl-2-aminobutanol 198493-28-6P, (R)-N-tert-Butyloxycarbonyl-3-aminopentane nitrile 400090-59-7P, (R)-N-tert-Butyloxycarbonyl-2-aminobutanol tosylate 400090-60-0P, (R)-3-Aminopentanenitrile
 RL: PRP (Properties); PUR (Purification or recovery); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (synthesis of 3-aminopentanoic acid stds.)

IT 400090-61-1P, (R)-3-Aminopentanenitrile
hydrochloride 400090-62-2P, (S)-3-Aminopentanenitrile hydrochloride
RL: PRP (Properties); PUR (Purification or recovery); SPN (Synthetic preparation); PREP (Preparation)
(synthesis of 3-aminopentanoic acid stds.)

IT 5856-62-2, (S)-2-Aminobutanol 5856-63-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(synthesis of 3-aminopentanoic acid stds.)

RE.CNT 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

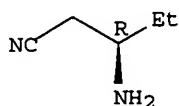
- (1) Carter, D; J Org Chem 1984, V49, P236 HCAPLUS
- (2) Corbett, T; Cytotoxic Anticancer Drugs:Models and Concepts for Drug Discovery and Development 1992, P35
- (3) Cragg, G; J Nat Prod 1997, V60, P52 HCAPLUS
- (4) Golakoti, T; J Am Chem Soc 1995, V117, P12030 HCAPLUS
- (5) Harrigan, G; J Nat Prod 1998, V61, P1221 HCAPLUS
- (6) Klaus, R; Chromatographia 1989, V23, P137
- (7) Kocienski, P; Protecting Groups 1994, P193
- (8) Koehn, F; J Nat Prod 1992, V55, P613 HCAPLUS
- (9) Luesch, H; J Nat Prod 2000, V63, P611 HCAPLUS
- (10) Moore, R; Pure Appl Chem 1982, V54, P1919 HCAPLUS
- (11) Ojika, M; Tetrahedron Lett 1995, V36, P5057 HCAPLUS
- (12) Pettit, G; Heterocycles 1989, V28, P553 HCAPLUS
- (13) Pettit, G; J Am Chem Soc 1982, V104, P905 HCAPLUS
- (14) Pettit, G; J Nat Prod 1997, V60, P752 HCAPLUS
- (15) Sone, H; Tetrahedron 1997, V53, P8149 HCAPLUS
- (16) Sone, H; Tetrahedron Lett 1993, V34, P8449 HCAPLUS
- (17) Sticher, O; J Nat Prod 2000, V63, P1283
- (18) Tietze, L; Reactions and Synthesis in the Organic Chemistry Laboratory 1989, P437
- (19) Trimurtulu, G; J Am Chem Soc 1994, V116, P4729 HCAPLUS

IT 400090-60-0P, (R)-3-Aminopentanenitrile
RL: PRP (Properties); PUR (Purification or recovery); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(synthesis of 3-aminopentanoic acid stds.)

RN 400090-60-0 HCAPLUS

CN Pentanenitrile, 3-amino-, (3R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

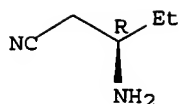


IT 400090-61-1P, (R)-3-Aminopentanenitrile
hydrochloride 400090-62-2P, (S)-3-Aminopentanenitrile hydrochloride
RL: PRP (Properties); PUR (Purification or recovery); SPN (Synthetic preparation); PREP (Preparation)
(synthesis of 3-aminopentanoic acid stds.)

RN 400090-61-1 HCAPLUS

CN Pentanenitrile, 3-amino-, monohydrochloride, (3R)- (9CI) (CA INDEX NAME)

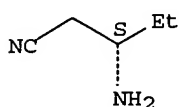
Absolute stereochemistry.



● HCl

RN 400090-62-2 HCAPLUS
 CN Pentanenitrile, 3-amino-, monohydrochloride, (3S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



● HCl

=> b uspatall
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 CA INDEXING COPYRIGHT (C) 2005 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'USPAT2' ENTERED AT 10:43:56 ON 31 AUG 2005
 CA INDEXING COPYRIGHT (C) 2005 AMERICAN CHEMICAL SOCIETY (ACS)

=> d bib abs fhitrn hitrn l25 tot

L25 ANSWER 1 OF 1 USPATFULL on STN

AN 2004:114964 USPATFULL

TI Process for the racemate resolution of 3-aminopentanenitrile

IN Dreisbach, Claus, Leichlingen, GERMANY, FEDERAL REPUBLIC OF
 Schlummer, Bjorn, Leverkusen, GERMANY, FEDERAL REPUBLIC OF

PI US 2004087811 A1 20040506

AI US 2003-690260 A1 20031021 (10)

PRAI DE 2002-10249339 20021022

DT Utility

FS APPLICATION

LREP BAYER CHEMICALS CORPORATION, PATENT DEPARTMENT, 100 BAYER ROAD,
 PITTSBURGH, PA, 15205-9741

CLMN Number of Claims: 15

ECL Exemplary Claim: 1

DRWN No Drawings

LN.CNT 635

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB By means of a new process for the resolution of racemic
 3-aminopentanenitrile, enantiomerically enriched 3-aminopentanenitrile
 or its salts can be obtained. For this, racemic 3-aminopentanenitrile is
 reacted with an enantiomerically enriched organic acid and one of the
 two diastereomeric salts formed is separated off and then converted into
 the enantiomerically enriched 3-aminopentanenitrile or its salts.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 400090-60-0P

(resolution of 3-aminopentanenitrile using enantiomerically enriched organic

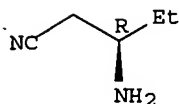
Search done by Noble Jarrell

acids)

RN 400090-60-0 USPATFULL

CN Pentanenitrile, 3-amino-, (3R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT 400090-60-0P 639804-64-1P, (S)-3-Aminopentanenitrile
(resolution of 3-aminopentanenitrile using enantiomerically enriched organic acids)

IT 75405-06-0, 3-Aminopentanenitrile
(resolution of 3-aminopentanenitrile using enantiomerically enriched organic acids)

=> d bib abs hitstr 127 tot

L27 ANSWER 1 OF 3 USPATFULL on STN

AN 2005:44547 USPATFULL

TI Preparation of chiral amino-nitriles

IN Allen, David Robert, La Grange Park, IL, UNITED STATES

Achenbach-McCarthy, Crystal A., Lombard, IL, UNITED STATES

PI US 2005038281 A1 20050217

AI US 2004-946167 A1 20040921 (10)

RLI Continuation of Ser. No. US 2002-185092, filed on 28 Jun 2002, ABANDONED

DT Utility

FS APPLICATION

LREP BAKER & DANIELS, 300 NORTH MERIDIAN STREET, SUITE 2700, INDIANAPOLIS, IN, 46204-1782

CLMN Number of Claims: 31

ECL Exemplary Claim: 1

DRWN No Drawings

LN.CNT 545

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A process and intermediates for producing 3-amino nitrites. The process involves resolving an enantiomeric mixture of chiral 3-amino nitrites in the presence of a chiral acid in a solvent system to produce a chiral 3-amino nitrile salt. The process may further comprise a recrystallizing step, wherein an enantiomerically enriched 3-amino nitrile salt is produced. The process may further comprise a salt exchanging step, wherein another acid is added to the chiral 3-amino nitrile salt or the enantiomerically enriched 3-amino nitrile salt to produce another 3-amino nitrile salt.

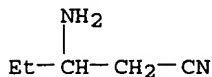
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 75405-06-0, 3-Aminopentanenitrile

(resolution of 3-amino-nitriles by salt formation with acid enantiomers and purification by recrystn. and anion exchange of formed salt diastereomers)

RN 75405-06-0 USPATFULL

CN Pentanenitrile, 3-amino- (9CI) (CA INDEX NAME)



IT 400090-61-1P 474645-97-1P

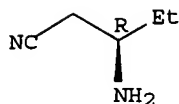
(resolution of 3-amino-nitriles by salt formation with acid enantiomers and purification by recrystn. and anion exchange of formed salt)

diastereomers)

RN 400090-61-1 USPATFULL

CN Pentanenitrile, 3-amino-, monohydrochloride, (3R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



● HCl

RN 474645-97-1 USPATFULL

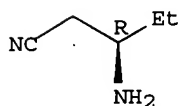
CN Pentanenitrile, 3-amino-, (3R)-, monomethanesulfonate (9CI) (CA INDEX NAME)

CM 1

CRN 400090-60-0

CMF C5 H10 N2

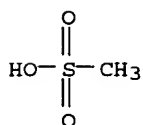
Absolute stereochemistry.



CM 2

CRN 75-75-2

CMF C H4 O3 S



L27 ANSWER 2 OF 3 USPATFULL on STN

AN 2004:158635 USPATFULL

TI Biocatalytic preparation of enantiomerically enriched aminopentanenitrile

IN Allen, David R., LaGrange Park, IL, UNITED STATES

Mozhaev, Vadim V., Hoffman Estates, IL, UNITED STATES

Valivety, Rao H., Schaumburg, IL, UNITED STATES

PI US 2004121435 A1 20040624

AI US 2002-327492 A1 20021220 (10)

DT Utility

FS APPLICATION

LREP BAKER & DANIELS, 300 NORTH MERIDIAN STREET, SUITE 2700, INDIANAPOLIS, IN, 46204-1782

CLMN Number of Claims: 56

ECL Exemplary Claim: 1

DRWN No Drawings

LN.CNT 967

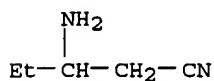
Search done by Noble Jarrell

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Methods for preparing enantiomerically enriched aminopentanenitriles are provided. The methods involve selective acylation of an enantiomeric mixture of 3-aminopentanenitrile or selective hydrolysis of an enantiomeric mixture of 3-aminopentanenitrile amide in the presence of an enzyme selected from the group comprising lipase, esterase, and acylase. The methods yield R-aminopentanenitrile, which can be used to produce pharmaceutical products.

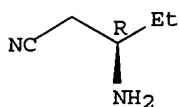
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 75405-06-0, 3-Aminopentanenitrile
(enzyme catalyzed preparation of enantiomerically enriched
aminopentanenitrile)
RN 75405-06-0 USPATFULL
CN Pentanenitrile, 3-amino- (9CI) (CA INDEX NAME)



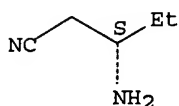
IT 400090-60-0P, R-3-Aminopentanenitrile 639804-64-1P,
S-3-Aminopentanenitrile
(enzyme catalyzed preparation of enantiomerically enriched
aminopentanenitrile)
RN 400090-60-0 USPATFULL
CN Pentanenitrile, 3-amino-, (3R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 639804-64-1 USPATFULL
CN Pentanenitrile, 3-amino-, (3S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

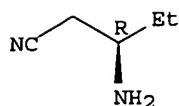


IT 474645-97-1P, R-3-Aminopentanenitrile methanesulfonate salt
(enzyme catalyzed preparation of enantiomerically enriched
aminopentanenitrile)
RN 474645-97-1 USPATFULL
CN Pentanenitrile, 3-amino-, (3R)-, monomethanesulfonate (9CI) (CA INDEX
NAME)

CM 1

CRN 400090-60-0
CMF C5 H10 N2

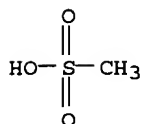
Absolute stereochemistry.



CM 2

CRN 75-75-2

CMF C H4 O3 S



L27 ANSWER 3 OF 3 USPATFULL on STN

AN 2004:2592 USPATFULL

TI PREPARATION OF CHIRAL AMINO-NITRILES

IN Allen, David Robert, La Grange Park, IL, UNITED STATES

Achenbach-McCarthy, Crystal A., Lombard, IL, UNITED STATES

PI US 2004002615 A1 20040101

AI US 2002-185092 A1 20020628 (10)

DT Utility

FS APPLICATION

LREP Kevin R. Erdman, Baker & Daniels, Suite 2700, 300 North Meridian Street,
Indianapolis, IN, 46204

CLMN Number of Claims: 36

ECL Exemplary Claim: 1

DRWN No Drawings

LN.CNT 553

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A process and intermediates for producing 3-amino nitrites. The process involves resolving an enantiomeric mixture of chiral 3-amino nitrites in the presence of a chiral acid in a solvent system to produce a chiral 3-amino nitrile salt. The process may further comprise a recrystallizing step, wherein an enantiomerically enriched 3-amino nitrile salt is produced. The process may further comprise a salt exchanging step, wherein another acid is added to the chiral 3-amino nitrile salt or the enantiomerically enriched 3-amino nitrile salt to produce another 3-amino nitrile salt.

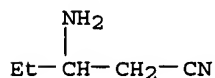
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 75405-06-0, 3-Aminopentanenitrile

(resolution of 3-amino-nitriles by salt formation with acid enantiomers and purification by recrystn. and anion exchange of formed salt diastereomers)

RN 75405-06-0 USPATFULL

CN Pentanenitrile, 3-amino- (9CI) (CA INDEX NAME)

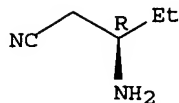


IT 400090-61-1P 474645-97-1P

(resolution of 3-amino-nitriles by salt formation with acid enantiomers and purification by recrystn. and anion exchange of formed salt diastereomers)

RN 400090-61-1 USPATFULL
 CN Pentanenitrile, 3-amino-, monohydrochloride, (3R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



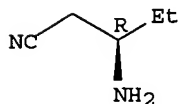
● HCl

RN 474645-97-1 USPATFULL
 CN Pentanenitrile, 3-amino-, (3R)-, monomethanesulfonate (9CI) (CA INDEX NAME)

CM 1

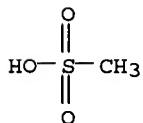
CRN 400090-60-0
 CMF C5 H10 N2

Absolute stereochemistry.



CM 2

CRN 75-75-2
 CMF C H4 O3 S



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<http://thomsonderwent.com/support/dwpieref/reftools/classification/code-revision/>
FOR DETAILS. <<<
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L37 ANSWER 1 OF 1 WPIX COPYRIGHT 2005 THE THOMSON CORP on STN
AN 2004-349508 [33] WPIX
DNC C2004-132937
TI Production of enantiomer enriched 3-aminopentanitrile e.g. used as
pharmaceutical intermediate, comprises reacting racemic
3-aminopentanitrile with enantiomer enriched organic acid and separating
diastereomeric salts.
DC B05
IN DREISBACH, C; SCHLUMMER, B
PA (FARB) BAYER AG; (FARB) BAYER CHEM
AG; (DREI-I) DREISBACH C; (SCHL-I) SCHLUMMER B
CYC 35
PI EP 1413565 A2 20040428 (200433)* GE 11 C07B057-00
R: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LT LU LV
MC MK NL PT RO SE SI SK TR
DE 10249339 A1 20040513 (200433) C07C255-24
US 2004087811 A1 20040506 (200433) C07C255-30
JP 2004143170 A 20040520 (200434) 14 C07C253-32
CN 1496971 A 20040519 (200455) C07C055-24
KR 2004035568 A 20040429 (200456) C07C253-30
ADT EP 1413565 A2 EP 2003-22897 20031009; DE 10249339 A1 DE 2002-10249339
20021022; US 2004087811 A1 US 2003-690260 20031021; JP 2004143170 A JP
2003-359355 20031020; CN 1496971 A CN 2003-1102878 20031022; KR 2004035568
A KR 2003-73259 20031021
PRAI DE 2002-10249339 20021022
IC ICM C07B057-00; C07C055-24; C07C253-30; C07C253-32; C07C255-24;
C07C255-30
ICS C07C253-30
AB EP 1413565 A UPAB: 20041125
NOVELTY - Production of enantiomer-enriched 3-aminopentanitrile (APN)
comprises reacting racemic APN with an enantiomer enriched organic acid to
form two diastereomeric salts, separating one of the salts and converting
it to enantiomer enriched APN or its salts.
USE - (R)-3-aminopentanitrile is useful as a pharmaceutical
intermediate.
ADVANTAGE - Products with a high enantiomeric excess (e.g. 60-80%)
can be produced.
Dwg.0/0
FS CPI
FA AB; DCN
MC CPI: B10-A15

=> d all 141 tot

L41 ANSWER 1 OF 9 WPIX COPYRIGHT 2005 THE THOMSON CORP on STN
AN 2005-346647 [35] WPIX
DNC C2005-107199
TI New racemic amino alkyl nitrile compounds useful as building blocks in the
synthesis of optically active beta-amino acids and pharmaceutical drugs.
DC B05

IN COLBERG, J; FRANZ, S Z; MOTTERLE, R; STIVANELLO, M; COLBERG, J C; ZAMBELLI
FRANZ, S

PA (PFIZ) PFIZER INC; (PFIZ) PFIZER PROD INC

CYC 108

PI WO 2005040097 A1 20050506 (200535)* EN 18 C07C253-32

RW: AT BE BG BW CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE
LS LU MC MW MZ NA NL OA PL PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW

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DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG
KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NI NO NZ
OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG
US UZ VC VN YU ZA ZM ZW

US 2005107453 A1 20050519 (200535) A61K031-4172

ADT WO 2005040097 A1 WO 2004-IB3395 20041018; US 2005107453 A1 Provisional US
2003-515160P 20031028, US 2004-942985 20040917

PRAI US 2003-515160P 20031028; US 2004-942985 20040917

IC ICM A61K031-4172; C07C253-32

ICS A61K031-277; A61K031-401; A61K031-405; C07B057-00; C07C255-24;
C07C255-29; C07D233-90

AB WO2005040097 A UPAB: 20050603

NOVELTY - Racemic amino alkyl nitrile compounds (I) and their individual R or
S isomers are new.

DETAILED DESCRIPTION - Racemic amino alkyl nitrile compounds of
formula (I) and their individual R or S isomers are new.

R = CH₃, ethyl, n-propyl, isopropyl, n-butyl or isobutyl; and

A = N-acetyl-L-alanine, N-acetyl-L-arginine, N-acetyl-L-asparagine,
N-acetyl-L-aspartic acid, N-acetyl-L-cysteine, N-acetyl-L-glutamine,
N-acetyl-L-glutamic acid, N-acetyl-L-histidine, N-acetyl-L-isoleucine,
N-acetyl-L-leucine, N-acetyl-L-lysine, N-acetyl-L-methionine,
N-acetyl-L-phenylalanine, N-acetyl-L-proline, N-acetyl-L-serine, N-acetyl-
L-threonine, N-acetyl-L-tryptophan, N-acetyl-L-tyrosine,
N-acetyl-L-valine, N-acetyl-D-alanine, N-acetyl-D-arginine,
N-acetyl-D-asparagine, N-acetyl-D-aspartic acid, N-acetyl-D-cysteine,
N-acetyl-D-glutamine, N-acetyl-D-glutamic acid, N-acetyl-D-histidine,
N-acetyl-D-isoleucine, N-acetyl-D-leucine, N-acetyl-D-lysine,
N-acetyl-D-methionine, N-acetyl-D-phenylalanine, N-acetyl-D-proline,
N-acetyl-D-serine, N-acetyl-D-threonine, N-acetyl-D-tryptophan,
N-acetyl-D-tyrosine or N-acetyl-D-valine.

An INDEPENDENT CLAIM is also included for the preparation of (I).

USE - (I) are useful as building blocks in the synthesis of optically
active beta -amino acids and pharmaceutical drugs, via the resolution of
racemic beta -amino alkyl nitriles using, as resolving agents, optically
active N-acetyl-alpha-amino acids.

ADVANTAGE - (I) provides a high yielding resolution reaction with
very high selectivity and low cost/high efficiency procedure for
synthesizing R-3-aminopentanenitrile.

Dwg.0/0

FS CPI

FA AB; GI; DCN

MC CPI: B06-D01; B07-D03; B07-D09; B10-A15

L41 ANSWER 2 OF 9 WPIX COPYRIGHT 2005 THE THOMSON CORP on STN

AN 2005-180423 [19] WPIX

CR 2004-120526 [12]

DNC C2005-057788

TI Preparation of 3-amino nitrile compounds useful as intermediates for
producing fine chemicals involves resolving mixture comprising two
enantiomers of 3-aminopentane nitrile in presence of chiral acid in
solvent system.

DC B05

IN ACHENBACH-MCCARTHY, C A; ALLEN, D R

PA (ACHE-I) ACHENBACH-MCCARTHY C A; (ALLE-I) ALLEN D R

CYC 1

PI US 2005038281 A1 20050217 (200519)* 9 C07C253-32

ADT US 2005038281 A1 Cont of US 2002-185092 20020628, US 2004-946167 20040921

PRAI US 2002-185092 20020628; US 2004-946167 20040921

IC ICM C07C253-32
 AB US2005038281 A UPAB: 20050321
 NOVELTY - Preparation of 3-amino nitrile compounds involves resolving enantiomeric mixture of (S)-3-aminopentane nitrile and (R)-3-aminopentane nitrile in presence of chiral acid (A1) in a solvent system to produce a chiral 3-amino nitrile salt.
 DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for new (R)-3-aminopentanenitrile dibenzoyl-(L)/(D)-tartrate salts.
 USE - For the preparation of chiral amino-nitriles (claimed), useful as starting material for the production of fine chemicals.
 ADVANTAGE - The chiral 3-amino nitrile salt has an optical purity of at least 45% (preferably 65 - 95%) e.e and the enantiomerically enriched 3-amino nitrile salt has an optical purity of at least 89% e.e.
 Dwg.0/0
 FS CPI
 FA AB; DCN
 MC CPI: B10-A15; B10-C02

L41 ANSWER 3 OF 9 WPIX COPYRIGHT 2005 THE THOMSON CORP on STN
 AN 2004-487170 [46] WPIX
 DNC C2004-181421
 TI Preparation of enantiomerically enriched 3-aminopentanenitriles to produce pharmaceutical products by reacting enantiomeric mixture containing R-3-aminopentanenitrile and S-3-aminopentanenitrile with an acyl donor in the presence of enzyme.
 DC B05 D16 E16
 IN ALLEN, D R; MOZHAEV, V V; VALIVETY, R H
 PA (ALLE-I) ALLEN D R; (MOZH-I) MOZHAEV V V; (VALI-I) VALIVETY R H; (PCBU-N) PCBU SERVICES INC
 CYC 106
 PI US 2004121435 A1 20040624 (200446)* 12 C12P013-00
 WO 2004058701 A2 20040715 (200446) EN C07D000-00
 RW: AT BE BG BW CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE
 LS LU MC MW MZ NL OA PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW
 W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK
 DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR
 KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NI NO NZ OM PG PH
 PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC
 VN YU ZA ZM ZW
 AU 2003297360 A1 20040722 (200476) C12P013-00
 ADT US 2004121435 A1 US 2002-327492 20021220; WO 2004058701 A2 WO 2003-US40508 20031219; AU 2003297360 A1 AU 2003-297360 20031219
 FDT AU 2003297360 A1 Based on WO 2004058701
 PRAI US 2002-327492 20021220
 IC ICM C07D000-00; C12P013-00
 AB US2004121435 A UPAB: 20040720
 NOVELTY - Preparing (P1) enantiomerically enriched 3-aminopentanenitriles, comprising reacting an enantiomeric mixture (m1) containing R-3-aminopentanenitrile (R-APN) and S-3-aminopentanenitrile (S-APN) with an acyl donor in the presence of an enzyme to selectively acylate one of R-APN and S-APN, is new.
 DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for preparation (P2) of enantiomerically enriched 3-aminopentanenitriles, comprising selective hydrolyzing one of acylated R-APN and acylated S-APN present in an enantiomeric mixture (m2) containing acylated R-APN and acylated S-APN in the presence of an enzyme.
 USE - For preparation of enantiomerically enriched 3-aminopentanenitriles useful to produce pharmaceutical products.
 ADVANTAGE - The method is efficient, economic and is a convenient alternative for the chiral resolution of aminopentanenitriles. The biocatalyst used exhibit excellent enantioselectivities. The enzyme reactions are specific with mild reaction conditions.
 Dwg.0/0
 FS CPI
 FA AB; DCN
 MC CPI: B10-A15; D05-A02C; D05-C; E10-A15E

L41 ANSWER 4 OF 9 WPIX COPYRIGHT 2005 THE THOMSON CORP on STN

AN 2004-464563 [44] WPIX

DNC C2004-173877

TI Manufacture of racemic amino pentane nitrile used for producing optically active amino pentane nitrile, involves racemizing optically active amino pentane nitrile by heating in presence of base and in atmosphere free of hydrogen.

DC B05 E16

PA (TORA) TORAY IND INC

CYC 1

PI JP 2004175741 A 20040624 (200444)* 7 C07C253-30

ADT JP 2004175741 A JP 2002-345094 20021128

PRAI JP 2002-345094 20021128

IC ICM C07C253-30

ICS C07C255-24

AB JP2004175741 A UPAB: 20040712

NOVELTY - An optically active amino pentane nitrile is racemized by heating in presence of a base and in an atmosphere free from hydrogen, to obtain racemic amino pentane nitrile.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for manufacture of optically active amino pentane nitrile. A raw material containing racemic amino pentane nitrile is optically resolved, and one optically active amino pentane nitrile is separated, by optical resolution process. The remaining optically active amino pentane nitrile is racemized by racemization process, to obtain racemic amino pentane nitrile. Subsequently, the racemic amino pentane nitrile is recycled as raw material of optical resolution process, by recycle process. The optically active amino pentane nitrile is racemized by heating in presence of base and in atmosphere free of hydrogen, in racemization process.

USE - For manufacture of racemic amino pentane nitrile reused as raw material for optically active amino pentane nitrile manufacture (claimed) used as medicinal raw material.

ADVANTAGE - The unwanted optical isomers recovered by optical resolution of racemic amino pentane nitrile can be racemized easily. The racemic amino pentane nitrile obtained by the manufacturing method, can be effectively reused as raw material for optically active amino pentane nitrile manufacture.

Dwg.0/0

FS CPI

FA AB; DCN

MC CPI: B10-A15; E10-A15E

L41 ANSWER 5 OF 9 WPIX COPYRIGHT 2005 THE THOMSON CORP on STN

AN 2004-395892 [37] WPIX

DNC C2004-148555

TI Production of optically active aminopentane nitrile such as optically active 3-aminopentane nitrile, by mixing optically active carboxylic acid with racemic aminopentane nitrile and optically resolving obtained diastereomeric salt.

DC B05

PA (TORA) TORAY IND INC

CYC 1

PI JP 2004143108 A 20040520 (200437)* 7 C07C253-34

ADT JP 2004143108 A JP 2002-311182 20021025

PRAI JP 2002-311182 20021025

IC ICM C07C253-34

ICS C07C255-24

AB JP2004143108 A UPAB: 20040611

NOVELTY - Production of optically active aminopentane nitrile involves mixing optically active carboxylic acid with racemic aminopentane nitrile in a solvent and optically resolving the obtained diastereomeric salt.

USE - Used for production of optically active aminopentane nitrile such as optically active 3-aminopentane nitrile (claimed) useful as medicinal raw material.

ADVANTAGE - The method is convenient and cost effective.

Dwg.0/0
 FS CPI
 FA AB; DCN
 MC CPI: B10-A15

L41 ANSWER 6 OF 9 WPIX COPYRIGHT 2005 THE THOMSON CORP on STN
 AN 2004-122968 [12] WPIX
 DNC C2004-049612

TI Producing optically-active beta-amino compounds and antipode amide compounds for use in pharmaceutical and agrochemical intermediates, comprises asymmetric enzymatic hydrolysis with stereoselectivity.

DC B05 C03 D16

IN ITO, N; KAWANO, S; YASOHARA, Y

PA (KANF) KANEKA CORP

CYC 105

PI WO 2004007741 A1 20040122 (200412)* JA 32 C12P041-00

RW: AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS
 LU MC MW MZ NL OA PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW

W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK
 DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR
 KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NI NO NZ OM PG PH
 PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC
 VN YU ZA ZM ZW

AU 2003280995 A1 20040202 (200450) C12P041-00

ADT WO 2004007741 A1 WO 2003-JP8826 20030711; AU 2003280995 A1 AU 2003-280995
 20030711

FDT AU 2003280995 A1 Based on WO 2004007741

PRAI JP 2003-47363 20030225; JP 2002-204592 20020712

IC ICM C12P041-00

ICS C07C255-29

ICA C12R001-05

ICI C12R001:15, C12R001:365, C12R001:72

AB WO2004007741 A UPAB: 20040218

NOVELTY - Producing an optically-active beta -amino compound (II) and its antipode amide compound comprising acting on an amide compound (I) with an enzyme source having asymmetric hydrolysis activity, is new.

DETAILED DESCRIPTION - Producing an optically-active beta - amino compound of formula (II) and its antipode amide compound comprises acting on an amide compound of formula (I) with an enzyme source having asymmetric hydrolysis activity.

formula (I)

R1 = 1-8C alkyl, 1-8C alkoxy, 2-8C alkenyl or 2-8C alkynyl

R2 = 1-8C alkyl, 1-8C alkoxy, 2-8C alkenyl, 2-8C alkynyl, 6-14C aryl or 5-14C heterocyclyl.

formula (II)

asterisk = asymmetric carbon atom.

INDEPENDENT CLAIMS are also included for:

(1) an amide compound of (III) or its salt; and

(2) an optically-active isomer of the amide compound of formula

(III).

R3 = 1-8C alkyl, 1-8C alkoxy, 2-8C alkenyl or 2-8C alkynyl

R4 = 1-8C alkyl, 1-8C alkoxy, 2-8C alkenyl, 2-8C alkynyl, 6-14C aryl or 5-14C heterocyclyl.

USE - The produced compounds are for use, e.g. in pharmaceutical and agrochemical intermediates.

ADVANTAGE - Such efficient method has high stereoselectivity.

Dwg.0/0

FS CPI
 FA AB; GI; DCN
 MC CPI: B10-A15; C10-A15; D05-A02C; D05-A04

L41 ANSWER 7 OF 9 WPIX COPYRIGHT 2005 THE THOMSON CORP on STN
 AN 2004-120526 [12] WPIX
 CR 2005-180423 [19]
 DNC C2004-048500

TI Preparation of 3-amino nitrile compounds useful as intermediates for the

production of fine chemicals involves resolving chiral 3-amino nitrites in presence of chiral acid in a solvent to produce a chiral 3-amino nitrile salt.

DC B05
 IN ACHENBACH-MCCARTHY, C; ALLEN, D R; ACHENBACH-MCCARTHY, C A
 PA (PCBU-N) PCBU SERVICES INC; (ACHE-I) ACHENBACH-MCCARTHY C A; (ALLE-I) ALLEN D R
 CYC 103
 PI US 2004002615 A1 20040101 (200412)* 9 C07C253-32
 WO 2004002924 A1 20040108 (200413) EN C07B057-00
 RW: AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS
 LU MC MW MZ NL OA PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW
 W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK
 DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR
 KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT
 RO RU SC SD SE SG SK SL TJ TM TN TR TT TZ UA UG UZ VC VN YU ZA ZM
 ZW
 AU 2003245572 A1 20040119 (200447) C07B057-00
 EP 1517877 A1 20050330 (200522) EN C07B057-00
 R: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LT LU LV
 MC MK NL PT RO SE SI SK TR
 KR 2005016625 A 20050221 (200542) C07C253-32
 ADT US 2004002615 A1 US 2002-185092 20020628; WO 2004002924 A1 WO 2003-US19271
 20030619; AU 2003245572 A1 AU 2003-245572 20030619; EP 1517877 A1 EP
 2003-739199 20030619, WO 2003-US19271 20030619; KR 2005016625 A KR
 2004-720987 20041223
 FDT AU 2003245572 A1 Based on WO 2004002924; EP 1517877 A1 Based on WO
 2004002924
 PRAI US 2002-185092 20020628
 IC ICM C07B057-00; C07C253-32
 ICS C07C253-30; C07C255-24
 AB US2004002615 A UPAB: 20050704
 NOVELTY - Preparation of 3-amino nitrile compounds involves resolving an
 enantiomeric mixture of chiral 3-amino nitrites in the presence of a
 chiral acid in a solvent (S1) to produce a chiral 3-amino nitrile salt
 (I).
 USE - For preparing 3-amino nitrile compounds e.g. (R) and (S)
 3-aminopentanenitrile (claimed), useful as intermediates for the
 production of fine chemicals.
 ADVANTAGE - (I) Has an optical purity of (at least 45, preferably 65
 - 95)% ee. The enantiomerically enriched (I) has an optical purity of at
 least 89% ee. The method involves a single step and has improved yields
 compared to the prior art multi-step processes.
 Dwg.0/0
 FS CPI
 FA AB; DCN
 MC CPI: B10-A15; B10-C02; B11-B

L41 ANSWER 8 OF 9 WPIX COPYRIGHT 2005 THE THOMSON CORP on STN
 AN 2003-512515 [48] WPIX
 DNC C2003-137248
 TI Preparation of chiral amino nitrile compounds used as starting material in
 synthesis of fine chemicals comprises esterifying amino protected alcohol,
 followed by nucleophilic substitution of ester with cyano.
 DC B05 E16
 IN ACHENBACH-MCCARTHY, C A; ALLEN, D R
 PA (ACHE-I) ACHENBACH-MCCARTHY C A; (ALLE-I) ALLEN D R; (PCBU-N) PCBU
 SERVICES INC
 CYC 102
 PI US 2003065207 A1 20030403 (200348)* 12 C07C253-16
 WO 2003029190 A1 20030410 (200348) EN C07C253-16
 RW: AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR IE IT KE LS LU
 MC MW MZ NL OA PT SD SE SK SL SZ TR TZ UG ZM ZW
 W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK
 DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR
 KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT

RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG UZ VC VN YU ZA ZM
ZW

US 6610874 B2 20030826 (200357) C07C253-16
EP 1430021 A1 20040623 (200441) EN C07C253-16
R: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LI LT LU LV MC
MK NL PT RO SE SI SK TR

AU 2002337723 A1 20030414 (200461) C07C253-16
KR 2004047870 A 20040605 (200465) C07C253-16
JP 2005504825 W 20050217 (200513) 36 C07C269-06

ADT US 2003065207 A1 US 2001-967270 20010928; WO 2003029190 A1 WO 2002-US30728
20020927; US 6610874 B2 US 2001-967270 20010928; EP 1430021 A1 EP
2002-773615 20020927, WO 2002-US30728 20020927; AU 2002337723 A1 AU
2002-337723 20020927; KR 2004047870 A KR 2004-704537 20040326; JP
2005504825 W WO 2002-US30728 20020927, JP 2003-532444 20020927

FDT EP 1430021 A1 Based on WO 2003029190; AU 2002337723 A1 Based on WO
2003029190; JP 2005504825 W Based on WO 2003029190

PRAI US 2001-967270 20010928
IC ICM C07C253-16; C07C269-06
ICS C07B053-00; C07C253-30; C07C255-24; C07C255-30; C07C271-20

AB US2003065207 A UPAB: 20030729
NOVELTY - Preparation of chiral amino nitrile compounds (I) comprises:
(a) esterifying the alcohol group of a chiral amino alcohol having an
alcohol group and a protected amine group to form an electrophilic carbon
having a leaving group, and
(b) substituting a cyanide for the leaving group in the presence of
dimethylformamide to form chiral amino nitrile having a protected amine
group.
USE - Used for the preparation of (I), preferably
N-t-butoxycarbonyl-(3R)-aminopentanenitrile (Ia) and (3R)-
aminopentanenitrile (claimed) useful as intermediates in the synthesis of
cholesterol reducing agent, and as starting materials and intermediates in
the synthesis of fine chemicals.
ADVANTAGE - The process is efficient and gives high yields of (I)
while using inexpensive reagents. The amino alcohol used in the process is
industrially feasible.
Dwg.0/6

FS CPI
FA AB; GI; DCN
MC CPI: B10-A15; E10-A15E; E11-H

L41 ANSWER 9 OF 9 WPIX COPYRIGHT 2005 THE THOMSON CORP on STN
AN 1999-312238 [26] WPIX
DNC C1999-092129
TI Cyanobutylation of ammonia, alkylamines and hydrazine with 3- and
4-pentenitriles to form alkylaminonitriles.
DC A21 A41 A60 E13 E16
IN HERKES, F E
PA (DUPO) DU PONT DE NEMOURS & CO E I
CYC 1
PI US 5902883 A 19990511 (199926)* 4 C07D241-04
ADT US 5902883 A US 1997-993967 19971218
PRAI US 1997-993967 19971218
IC ICM C07D241-04
ICS C07C255-00

AB US 5902883 A UPAB: 20011211
NOVELTY - Cyclobutylation of ammonia, primary and secondary alkylamines and
hydrazine with 3- and/or 4-pentenitriles to form alkylaminonitriles
DETAILED DESCRIPTION - A process for making aliphatic 3-aminonitriles
comprises:
(i) forming a reaction mixture comprising 3- and/or 4-pentenitrile
and ammonia or an alkamine; or
(ii) optionally incorporating water into the reaction mixture; and
(iii) reacting the mixture at 25-200 deg. C and pressures from
autogeneous to 1500 psig.
USE - The process is used for the cyanobutylation of ammonia,
alkylamines and hydrazine with 3- and 4-pentenitriles to form

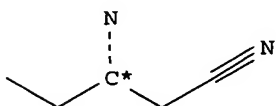
alkylaminonitriles which can be hydrogenated to form alkyldiamines. The alkyldiamines can be used as monomers for producing polyamide, polyimide or polyurethane urea. The alkyldiamines can also be used as a metal chelating agent or an epoxy resin crosslinker.

ADVANTAGE - Alkylaminonitriles can be made with high yields and selectivity's. The reaction rate is increased by the addition of a strong base

FS CPI
FA AB; GI; DCN
MC CPI: A01-E05; A05-A01B1; A08-D03; E07-D11; E10-A15D; E10-A15E; E10-B01E;
E31-A04

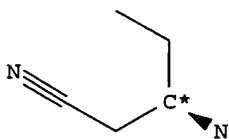
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L31 ANSWER 1 OF 3 WPIX COPYRIGHT 2005 THE THOMSON CORP on STN
AN.S DCR-923913
DCSE 211181-4-0-0
CN.S 3-Amino-pentanenitrile



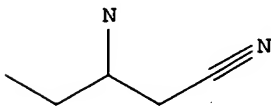
MF C5 H10 N2

L31 ANSWER 2 OF 3 WPIX COPYRIGHT 2005 THE THOMSON CORP on STN
AN.S DCR-738940
DCSE 211181-1-0-0
CN.S 3-Amino-pentanenitrile



MF C5 H10 N2

L31 ANSWER 3 OF 3 WPIX COPYRIGHT 2005 THE THOMSON CORP on STN
AN.S DCR-211181
DCSE 211181-0-0-0
CN.S 3-Amino-pentanenitrile



MF C5 H10 N2

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